N° 1-6736
Scope available
on www.cofrac.fr

CERTIFICATE #3478.01

TEST REPORT

EUT Description	**2x2 Wi-Fi and BT, M.2 1216 adapter card**
Brand Name	**Intel® BE211D2W**
Model Name	**BE211D2W, BE211D2W M**
FCC/IC ID	**FCC ID: PD9BE211D2 ; IC ID: 1000M-BE211D2**
Date of Test Start/End	**2025-06-12 / 2025-07-25**
Features	**2x2 WiFi - Bluetooth®** (see section 5)

Applicant	**Intel Corporation SAS**
Address	**425 Rue de Goa – Le Cargo B6 – 06600 Antibes, FRANCE**
Contact Person	**Benjamin Lavenant**
Telephone/Fax/ Email	**Benjamin.lavenant@intel.com**

Reference Standards	**FCC CFR Title 47 Part 15 C** **RSS-247 issue 3, RSS-Gen issue 5 A1** (see section 1 0)

Test Report identification	**250519-02.TR06**
Revision Control	**Rev. 00** **This test report revision replaces any previous test report revision** (see section 8)

The test results relate only to the samples tested.
Reference to accreditation shall be used only by full reproduction of test report.

Issued by

Digitally signed by Khodor RIDA
Date: 2025.07.25 18:08:08 +02'00'

Khodor RIDA
(Test Engineer Lead)

Reviewed by

ines kharrat
2025.07.25 18:09:03 +02'00'

Ines KHARRAT
(Technical Officer)

Table of Contents

1. Standards, reference documents and applicable test methods

FCC	1. FCC Title 47 CFR part 15 - Subpart C – §15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz. 2024-10-01 Edition 2. FCC Title 47 CFR part 15 - Subpart C – §15.209 Radiated emission limits; general requirements. 2024-10-01 Edition 3. FCC OET KDB 558074 D01 v05r02 - Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules. 4. FCC OET KDB 662911 D01 v02r01 - Emissions Testing of Transmitters with Multiple Outputs in the Same Band. 5. ANSI C63.10-2020 - American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
ISED	1. RSS-247 Issue 3 - Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices. 2. RSS-Gen Issue 5 A1- General Requirements for Compliance of Radio Apparatus. 3. FCC OET KDB 558074 D01 v05r02 - Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules. 4. FCC OET KDB 662911 D01 v02r01 - Emissions Testing of Transmitters with Multiple Outputs in the Same Band. 5. ANSI C63.10-2020+Cor2023+Amd2024 - American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

2. General conditions, competences and guarantees

- ✓ Tests performed under FCC standards identified in section 1 are covered by A2LA accreditation.
- ✓ Tests performed under ISED standards identified in section 1 are covered by Cofrac accreditation.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an ISO/IEC 17025:2017 laboratory accredited by the American Association for Laboratory Accreditation (A2LA) with the certificate number 3478.01.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an Accredited Test Firm recognized by the FCC, with Designation Number FR0011.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an ISO/IEC 17025:2017 testing laboratory accredited by the French Committee for Accreditation (Cofrac) with the certificate number 1-6736.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is a Registered Test Site listed by ISED, with ISED #1000Y and CAB identifier FR0005.
- ✓ Intel WRF Lab only provides testing services and is committed to providing reliable, unbiased test results and interpretations.
- ✓ Intel WRF Lab is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.
- ✓ Intel WRF Lab has developed calibration and proficiency programs for its measurement equipment to ensure correlated and reliable results to its customers.
- ✓ This report is only referred to the item that has undergone the test.
- ✓ This report does not imply an approval of the product by the Certification Bodies or competent Authorities.

3. Environmental Conditions

- ✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

Temperature	Min.21.88°C Max.24.76°C Average 23.49°C
Humidity	Min.25.87% Max.37.62% Average 29.28%

4. Test samples

Sample	Control #	Description	Model	Serial #	Date of receipt	Note
#01	250528-01.S23	Module	BE211D2W	FC6D77CA9E00	2025-07-04	Used for Conducted Tests
	230824-01.S02	Laptop	HP Willie	A5CD32257RT	2023-08-28	
	231109-03.S70	Extender Mother Board	PCB00887-00_A	2207308398	2024-06-05	
	230526-08.S03	Extender Daughter Board	PCB00862-00_A	2202207510	2023-05-26	
#02	250528-01.S07	Module	BE211D2W	289200F96596	2025-05-28	Used for Radiated Spurious Emissions tests
	200803-01.S01	Extender	ADEXELEC	139245	2020-08-31	
	170000-01.S57	Adapter	BNJ C0 V3	ASS00959-00-0C	2025-03-24	
	200611-03.S30	Test PC	Latitude 5401	6DJLK13	2020-08-19	
	230223-02.S48	Triband Antenna	-	006	2023-04-20	
	230526-09.S08	Triband Antenna	-	016	2023-07-06	
#03	250528-01.S07	Module	BE211D2W	289200F96596	2025-05-28	Used for Radiated Spurious Emissions tests
	200904-01.S14	Extender	ADEXELEC	12	2023-06-22	
	170000-01.S56	Adapter	BNJ C0 V3	E1578726888186A	2025-03-24	
	170000-01.S55	Test PC	LATITUDE 5530	004250000000002 AA521	2025-03-24	
	230526-09.S06	Triband Antenna	-	014	2023-07-06	
	230526-09.S05	Triband Antenna	-	013	2023-07-06	
#04	250528-01.S29	Module	BE211D2W	C0A810A3BB50	2025-07-16	Used for Radiated Spurious Emissions tests
	180001-01.S21	Socket	1216SD to M.2	-	2021-06-07	
	200904-01.S14	Extender	ADEXELEC	12	2023-06-22	
	170000-01.S56	Adapter	BNJ C0 V3	E1578726888186A	2025-03-24	
	170000-01.S55	Test PC	LATITUDE 5530	004250000000002 AA521	2025-03-24	
	230526-09.S06	Triband Antenna	-	014	2023-07-06	
	230526-09.S05	Triband Antenna	-	013	2023-07-06	

5. EUT Features

The herein information is provided by the customer

Intel WRF Lab declines any responsibility for the accuracy of the stated customer provided information, especially if it has any impact on the correctness of test results presented in this report.

<table>
<tr><td>Brand Name</td><td>Intel® BE211D2W</td></tr>
<tr><td>Model Name</td><td>BE211D2W, BE211D2W M</td></tr>
<tr><td>Software Version</td><td>DRTU.08798.99.0.99</td></tr>
<tr><td>Driver Version</td><td>23.160.25212.8026
Used for conducted Tests : 23.162.25274.12484</td></tr>
<tr><td>Prototype / Production</td><td>Production</td></tr>
<tr><td>Supported Radios</td><td>802.11b/g/n/ac/ax/be 2.4GHz
802.11a/n/ac/ax/be 5.2GHz
5.6GHz
5.8GHz
802.11ax/be 6.0GHz
Bluetooth 2.4GHz</td></tr>
<tr><td>Antenna Information</td><td>
<table>
<tr><th>Transmitter</th><th>Chain A(1)</th><th>Chain B(2)</th></tr>
<tr><td>Manufacturer</td><td>Intel WRF Lab</td><td>Intel WRF Lab</td></tr>
<tr><td>Antenna type</td><td>PIFA</td><td>PIFA</td></tr>
<tr><td>Part number</td><td>WRF-Tri Band-Antenna</td><td>WRF-Tri Band-Antenna</td></tr>
<tr><td>Declared antenna gain (dBi)</td><td>+3.0</td><td>+3.0</td></tr>
</table>
</td></tr>
</table>

6. Remarks and comments

1. No deviations were made from the test methods listed in section 1 of this report
2. For each bluetooth mode, only the worst-case measurement results and plots have been reported,

7. Test Verdicts summary

The statement of conformity to applicable standards in the table below are based on the measured values, without taking into account the measurement uncertainties.

FCC part	RSS part	Test name	Verdict
15.247 (a) (1)	RSS-247 Clause 5.1 (a) and (b)	20dB Bandwidth and Carrier frequency separation	Pass
15.247 (a) (1) (iii)	RSS-247 Clause 5.1 (d)	Number of hopping channels	Pass
15.247 (a) (1) (iii)	RSS-247 Clause 5.1 (d)	Time of Occupancy (Dwell Time)	Pass
15.247 (b) (1)	RSS-247 Clause 5.4 (b)	Maximum Peak Output Power and antenna gain	Pass
15.247 (d)	RSS-247 Clause 5.5	Out-of-band Emissions (conducted)	Pass
15.247 (d) 15.209	RSS-247 Clause 5.5 RSS-GEN A1 Clause 8.9	Out-of-band Emissions (radiated)	Pass

8. Document Revision History

Revision #	Modified by	Revision Details
Rev. 00	T.MATHIEU	First Issue

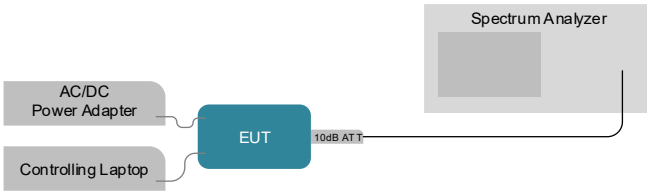
Annex A. Test & System Description

A.1 Measurement System

Measurements were performed using the following setups.

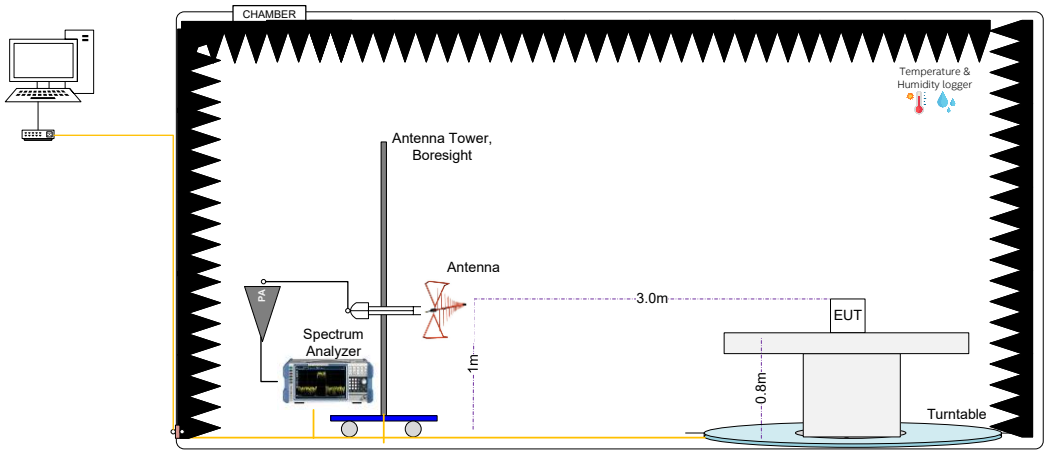
The DUT was installed in a test fixture and this test fixture is connected to a laptop computer and AC/DC power adapter. The laptop computer was used to configure the EUT to continuously transmit at a specified output power using all different modes and modulation schemes.

Conducted test setup

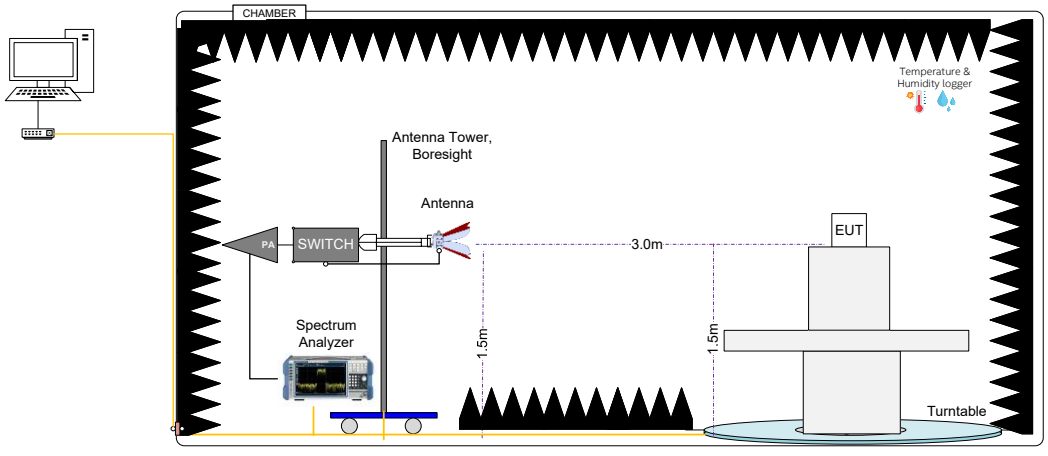


Radiated test setup

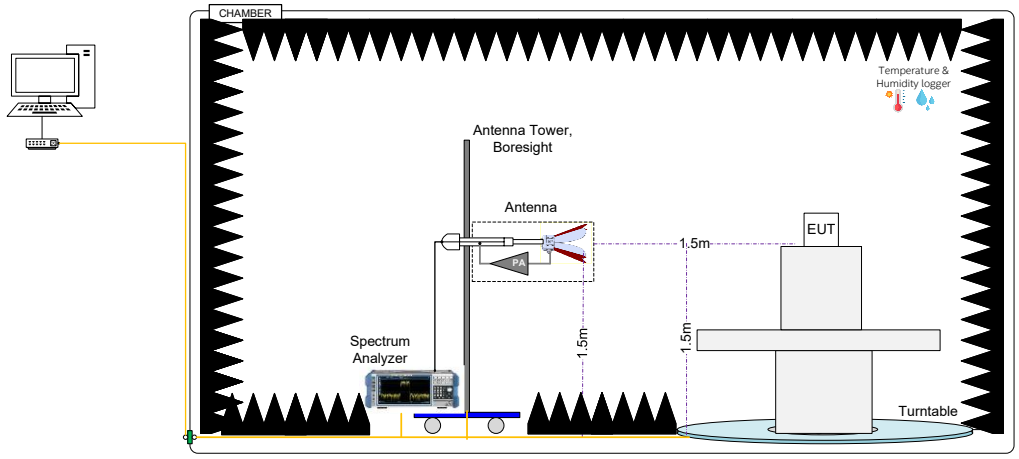
Radiated Setup 30 MHz – 1 GHz (Transmitter tests)



Radiated Setup 1 GHz – 11 GHz (Transmitter tests)



Radiated Setup 11 GHz – 26 GHz (Transmitter tests)



Sample Calculation

The spurious received voltage V(dBuV) in the spectrum Analyzer is converted to Electric field strength using the transducer factor F corresponding to the Rx path Loss:

F (dB/m)= Rx Antenna Factor (dB/m) + Cable losses (dB) – Amplifiers Gain (dBi)

E (dBuV/m) = V(dBuV) + F (dB/m)

For field strength measurements made at other than the distance at which the applicable limit is specified, the field strength of the emission at the distance specified by the limit is deduced as follows:

$$E_{SpecLimit} = E_{Meas} + 20*\log(D_{Meas}/D_{SpecLimit})$$

where

$E_{SpecLimit}$ is the field strength of the emission at the distance specified by the limit, in dBµV/m
E_{Meas} is the field strength of the emission at the measurement distance, in dBµV/m
D_{Meas} is the measurement distance, in m
$D_{SpecLimit}$ is the distance specified by the limit, in m

A.2 Test Equipment List

Conducted Setup

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
273-000	Spectrum Analyzer	FSV30	103309	Rohde & Schwarz	2024-03-22	2026-03-22
019-000	RF cable 50cm	PE360-50CM	N/A	PASTERNACK	2025-02-24	2026-02-24
019-002	10dB Attenuator + MH4	PE7395-10	N/A	PASTERNACK	2025-02-24	2026-02-24
094-004	Temp & Humidity Logger	RMS-HCD-S	24050488	Rotronic	2024-09-02	2026-09-02
413-000	Measurement SW v1.5.4.2	Octopi	N/A	Step AT	N/A	N/A

Radiated Setup #1

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
006-000	Anechoic Chamber	FACT3	5720	ETS-Lindgren	2024-01-17	2026-01-17
006-001	Turn Table	ETS	-	ETS-Lindgren	N/A	N/A
094-002	Thermo-hygrometer sensor	RMS-HCD-S	24050486	Rotronic	2024-09-02	2026-09-02
006-011	Boresight antenna mast	BAM 4.0-P	P/278/2890.01	Maturo	N/A	N/A
006-002	Switch & Positioning systems	EMC Center	00159757	ETS-Lindgren	N/A	N/A
147-000	Spectrum analyzer	FSW43	101847	Rohde & Schwarz	2025-03-07	2027-03-07
006-008	Measurement SW, v11.3	EMC32	100623	Rohde & Schwarz	N/A	N/A
301-000	Amplifier 9kHz-1300MHz	8447F	3113A07440	HP	2025-02-11	2026-02-11
006-067	Low Pass Filter 1.6GHz	LPM17671	G002	Micro-Tronics	2025-02-11	2026-02-11
007-034	Broadband RF Power Amplifier 0.5-40.0GHz	DEPA0540-43	2024A02	Diamond Engineering	2025-02-11	2026-02-11
189-000	Double Horn Ridged antenna 10GHz-40GHz	3116C	227716	ETS-Lindgren	2024-05-29	2026-05-29
057-000	Double ridged horn antenna (1GHz to 18GHz)	ETS-Lindgren-3117	167062	ETS-Lindgren	2024-07-23	2026-07-23
006-061	Bi-Log Periodic antenna	CBL6143A	61382	Teseq	2024-11-13	2026-11-13
006-068	RF Switch DC-40GHz	LPM17671	G002	Mini-Circuits	2025-02-11	2026-02-11
261-000	RF Amplifier Used for 1 GHz-11GHz	ETS-Lindgren-3117-PA	00157993	ETS-Lindgren	2025-02-11	2026-02-11
009-007	Filter HPF 11GHz	Mini-Circuits-ZHSS-k11G+	84931831830	Mini-Circuits	2025-02-11	2026-02-11
006-051	RF Cable 1.0m	CBL-1.5M-SMSM+	202879	Mini-Circuits	2025-03-12	2026-03-12
006-066	Cable 7m – 25MHz to 40GHz	R286304174	20.46.370	Radiall	2025-02-10	2026-02-10
006-063	Cable 30cm – 1GHz to 40GHz	PE371-12	-	Pasternack	2025-02-10	2026-02-10
006-064	Cable 30cm – 1GHz to 40GHz	PE371-12	-	Pasternack	2025-02-10	2026-02-10
006-065	Cable 60cm – 25MHz to 1GHz	PE300-24	-	Pasternack	2025-02-10	2026-02-10

N/A: Not Applicable

Radiated Setup #2

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
007-000	Anechoic chamber	RFD-FA-100	5996	ETS Lindgren	2024-01-18	2026-01-18
138-000	Spectrum Analyzer	FSV40**	101556	Rohde & Schwarz	2024-02-27	2026-02-27
137-000	Spectrum Analyzer	FSW67*	103266	Rohde & Schwarz	2025-02-11	2027-02-11
007-007	Double Ridge Horn Antenna (1- 18GHz)	3117	00152266	ETS Lindgren	2024-03-26	2026-03-26
026-008	Low noise amplifier 1-18GHz	LA1018N3209	J10100000407	A-INFO	2025-02-19	2026-02-19
007-004	Switch & Positioner	EMCenter	00162359	ETS Lindgren	N/A	N/A
007-006	EMControl & EMSwitch	EMCenter	00151232	ETS Lindgren	N/A	N/A
007-036	SMA-SMA 6.5m Cable	140-8500-11-51-001	001	Atem	2025-03-12	2026-03-12
007-005	Measurement SW, v11.30.00	EMC32	100401	Rohde & Schwarz	N/A	N/A
007-001	Styrofoam Column, 151mm	-	-	-	N/A	N/A
007-002	Turntable	-	-	ETS Lindgren	N/A	N/A
007-003	Antenna Tower	2171B-3.0M	00150123	ETS Lindgren	N/A	N/A
007-015	N-SMA 1.5m Cable	-	-	Spirent	2025-02-19	2026-02-19
007-018	SMA-SMA 1.2m Cable	0500990991200KE	-	Radiall	2025-02-19	2026-02-19
094-001	Temp & Humidity Logger	RMS-HCD-S	24050487	Rotronic	2024-09-02	2026-09-02

*Used from 12/06/2025 to 16/06/2025
**Used since 17/06/2025

N/A: Not Applicable

Shared Radiated Equipment

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
412-000	DRTU Power finder V2.1	-	-	Intel	N/A	N/A
139-000	Power Sensor	NRP-Z81	104383	Rohde & Schwarz	2025-05-20	2027-05-20
140-000	Power Sensor	NRP-Z81	104382	Rohde & Schwarz	2024-04-04	2026-04-04

A.3 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the table below with a coverage factor of k = 2 to indicate a 95% level of confidence:

Measurement type	Uncertainty	Unit
Timing	±0.12	%
Power Spectral density	±1.47	dB
Occupied bandwidth	±2.07	%
Conducted Power	±1.03	dB
Conducted Spurious Emission <3.6 GHz	±1.53	dB
Radiated tests <1GHz	±6.33	dB
Radiated tests 1GHz – 26.5 GHz	±5.87	dB

Annex B. Test Results

The herein test results were performed by:

Test case measurement	Test Personnel
20dB Bandwidth and Carrier frequency separation	T.MATHIEU
Number of hopping channels	T.MATHIEU
Time of Occupancy (Dwell Time)	T.MATHIEU
Maximum Peak Output Power and antenna gain	T.MATHIEU
Out-of-band Emissions (conducted)	T.MATHIEU
Spurlous Emissions (radiated)	K. RIDA

B.1 Test Conditions

The EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, and also simultaneously.

The following packet types were selected based on preliminary testing that identified those packet types as the worst cases for output power and spurious levels at the band edges:

Transmission	Mode	Worst Case Packet Type
SISO/MIMO	Basic Rate GFSK	DH5
SISO/MIMO	EDR π/4-DQPSK	2-DH5
SISO/MIMO	EDR 8-DPSK	3-DH5

B.2 20dB Bandwidth and carrier frequency separation

B.2.1 Test limits

FCC part	RSS part	Limits
15.247 (a) (1)	RSS-247 Clause 5.1 (a) and (b)	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

B.2.2 Results tables

Chain	Mode	Packet Type	Channel Number	Frequency [MHz]	20dB BW [MHz]	Freq. Separation [kHz]
SISO A	Basic Rate GFSK	DH5	0	2402	**0.96**	1000
			39	2441	**0.96**	
			78	2480	0.95	
	EDR π/4-DQPSK	2DH5	0	2402	**1.36**	1000
			39	2441	**1.36**	
			78	2480	**1.36**	
	EDR 8-DPSK	3DH5	0	2402	1.34	1000
			39	2441	1.34	
			78	2480	1.34	
SISO B	Basic Rate GFSK	DH5	0	2402	0.95	1105
			39	2441	**0.96**	
			78	2480	0.95	
	EDR π/4-DQPSK	2DH5	0	2402	1.36	1105
			39	2441	1.36	
			78	2480	1.36	
	EDR 8-DPSK	3DH5	0	2402	1.34	1002.5
			39	2441	1.34	
			78	2480	1.34	
MIMO A	Basic Rate GFSK	DH5	0	2402	0.95	1000
			39	2441	0.95	
			78	2480	0.95	
	EDR π/4-DQPSK	2DH5	0	2402	**1.36**	1000
			39	2441	**1.36**	
			78	2480	**1.36**	
	EDR 8-DPSK	3DH5	0	2402	1.34	1000
			39	2441	1.34	
			78	2480	1.34	
MIMO B	Basic Rate GFSK	DH5	0	2402	0.95	1000
			39	2441	0.95	
			78	2480	**0.96**	
	EDR π/4-DQPSK	2DH5	0	2402	**1.36**	1000
			39	2441	**1.36**	
			78	2480	**1.36**	
	EDR 8-DPSK	3DH5	0	2402	1.34	1000
			39	2441	1.34	
			78	2480	**1.35**	

Largest value per mode

B.3 Number of hopping channels

B.3.1 Test limits

FCC part	RSS part	Limits
15.247 (a) (1) (iii)	RSS-247 Clause 5.1 (d)	Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

B.3.2 Test procedure

The conducted setup shown in section *Test & System Description* was used to measure the number of hopping channels. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

B.3.3 Results tables

Mode	Packet Type	Number of hopping channels
Basic Rate GFSK	DH5	79
EDR π/4-DQPSK	2DH5	79
EDR 8-DPSK	3DH5	79

B.4 Time of Occupancy (Dwell Time)

FCC part	RSS part	Limits
15.247 (a) (1) (iii)	RSS-247 Clause 5.1 (d)	The average time of occupancy (Dwell Time) on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

B.4.1 Test procedure

The conducted setup shown in section *Test & System Description* was used to measure the dwell time. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

In the worst case, the system makes 1600 hops per second with 79 channels, providing a 1 timeslot length of 625µs.

A DH1 packet, with independence of the modulation, needs 1 time slot for transmitting and 1 time slot for receiving. Then, the system makes in the worst case 1600/2 = 800 hops per second with 79 channels. So each channel appears 800/79 = 10.13 times per second and, for a period of 0.4 x 79 = 31.6 seconds, each channel appears 10.13 x 31.6 = 320.11 times.

A DH3 packet, with independence of the modulation, needs 3 time slots for transmitting and 1 time slot for receiving. Then, the system makes in the worst case 1600/4 = 400 hops per second with 79 channels. So each channel appears 400/79 = 5.1 times per second and, for a period of 0.4 x 79 = 31.6 seconds, each channel appears 5.1 x 31.6 = 161.16 times.

A DH5 packet, with independence of the modulation, needs 5 time slots for transmitting and 1 time slot for receiving. Then, the system makes in the worst case 1600/6 = 266.67 hops per second with 79 channels. So each channel appears 166.67/79 = 3.37 times per second and, for a period of 0.4 x 79 = 31.6 seconds, each channel appears 3.37 x 31.6 = 106.49 times.

Thus, the total time of occupancy is obtained by multiplying the calculated maximum number of appearances per packet type and the measured Tx-time, as shown in the results screenshots.

B.4.2 Results tables

Mode	Packet Type	Times of appearance	Tx-time [ms]	Dwell Time [ms]
Basic Rate GFSK	DH1	320.11	0.367	117.47
	DH3	161.16	1.626	262.10
	DH5	106.49	2.873	305.97
EDR π/4-DQPSK	2-DH1	320.11	0.374	119.79
	2-DH3	161.16	1.633	263.19
	2-DH5	106.49	2.882	306.86
EDR 8-DPSK	3-DH1	320.11	0.370	118.46
	3-DH3	161.16	1.632	262.98
	3-DH5	106.49	2.882	306.86

B.5 Maximum Peak Output Power antenna gain

B.5.1 Test Limits

FCC part	RSS part	Limits
15.247 (b) (1)	RSS-247 Clause 5.4 (b)	(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following: (1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. (…) (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi.

B.5.2 Test procedure

The conducted setup shown in section *Test & System Description* was used to measure the maximum peak output power. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

B.5.3 Results tables

Chain	Mode	Packet	Channel	Frequency [MHz]	Peak Power [dBm]	Peak Power [mW]	Peak Power EIRP [dBm]	Peak Power EIRP [mW]
SISO A	Basic Rate GFSK	DH5	0	2402	15.27	33.65	18.27	67.14
			39	2441	15.49	35.40	18.49	70.63
			78	2480	15.63	36.56	18.63	72.95
	EDR π/4-DQPSK	2DH5	0	2402	14.93	31.12	17.93	62.09
			39	2441	15.15	32.73	18.15	65.31
			78	2480	15.29	33.81	18.29	67.45
	EDR 8-DPSK	3DH5	0	2402	15.23	33.34	18.23	66.53
			39	2441	15.46	35.16	18.46	70.15
			78	2480	15.6	36.31	18.60	72.44
SISO B	Basic Rate GFSK	DH5	0	2402	15.13	32.58	18.13	65.01
			39	2441	15.38	34.51	18.38	68.87
			78	2480	15.6	36.31	18.60	72.44
	EDR π/4-DQPSK	2DH5	0	2402	14.81	30.27	17.81	60.39
			39	2441	15.06	32.06	18.06	63.97
			78	2480	15.27	33.65	18.27	67.14
	EDR 8-DPSK	3DH5	0	2402	15.11	32.43	18.11	64.71
			39	2441	15.37	34.43	18.37	68.71
			78	2480	15.58	36.14	18.58	72.11

MIMO A	Basic Rate GFSK	DH5	0	2402	15.3	33.88	18.30	67.61
			39	2441	15.52	35.65	18.52	71.12
			78	2480	15.67	36.90	18.67	73.62
	EDR π/4-DQPSK	2DH5	0	2402	14.98	31.48	17.98	62.81
			39	2441	15.21	33.19	18.21	66.22
			78	2480	15.36	34.36	18.36	68.55
	EDR 8-DPSK	3DH5	0	2402	15.28	33.73	18.28	67.30
			39	2441	15.51	35.56	18.51	70.96
			78	2480	15.66	36.81	18.66	73.45
MIMO B	Basic Rate GFSK	DH5	0	2402	15.14	32.66	18.14	65.16
			39	2441	15.38	34.51	18.38	68.87
			78	2480	15.59	36.22	18.59	72.28
	EDR π/4-DQPSK	2DH5	0	2402	14.76	29.92	17.76	59.70
			39	2441	15.04	31.92	18.04	63.68
			78	2480	15.27	33.65	18.27	67.14
	EDR 8-DPSK	3DH5	0	2402	15.07	32.14	18.07	64.12
			39	2441	15.35	34.28	18.35	68.39
			78	2480	15.55	35.89	18.55	71.61
Combined A+B	Basic Rate GFSK	DH5	0	2402	18.23	66.54	21.23	132.77
			39	2441	18.46	70.16	21.46	139.99
			78	2480	18.64	**73.12**	21.64	145.90
	EDR π/4-DQPSK	2DH5	0	2402	17.88	61.40	20.88	122.51
			39	2441	18.14	65.10	21.14	129.90
			78	2480	18.33	**68.01**	21.33	135.69
	EDR 8-DPSK	3DH5	0	2402	18.19	65.87	21.19	131.42
			39	2441	18.44	69.84	21.44	139.35
			78	2480	18.62	**72.71**	21.62	145.07

Highest/Lowest power per mode

B.6 Out-of-band emission (conducted)

B.6.1 Test limits

FCC part	RSS part	Limits
15.247 (d)	RSS-247 Clause 5.5	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

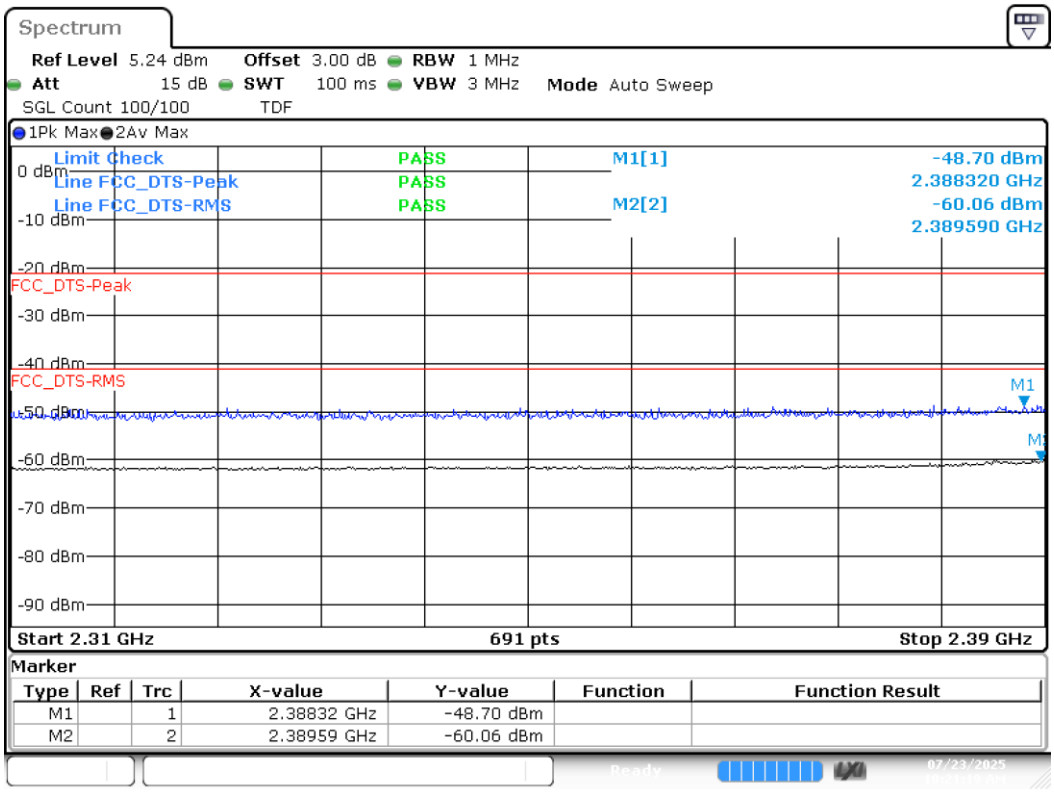
B.6.2 Test procedure

The conducted setup shown in section *Test & System Description* was used to measure the out-of-band emissions (conducted). The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

B.6.3 Test results

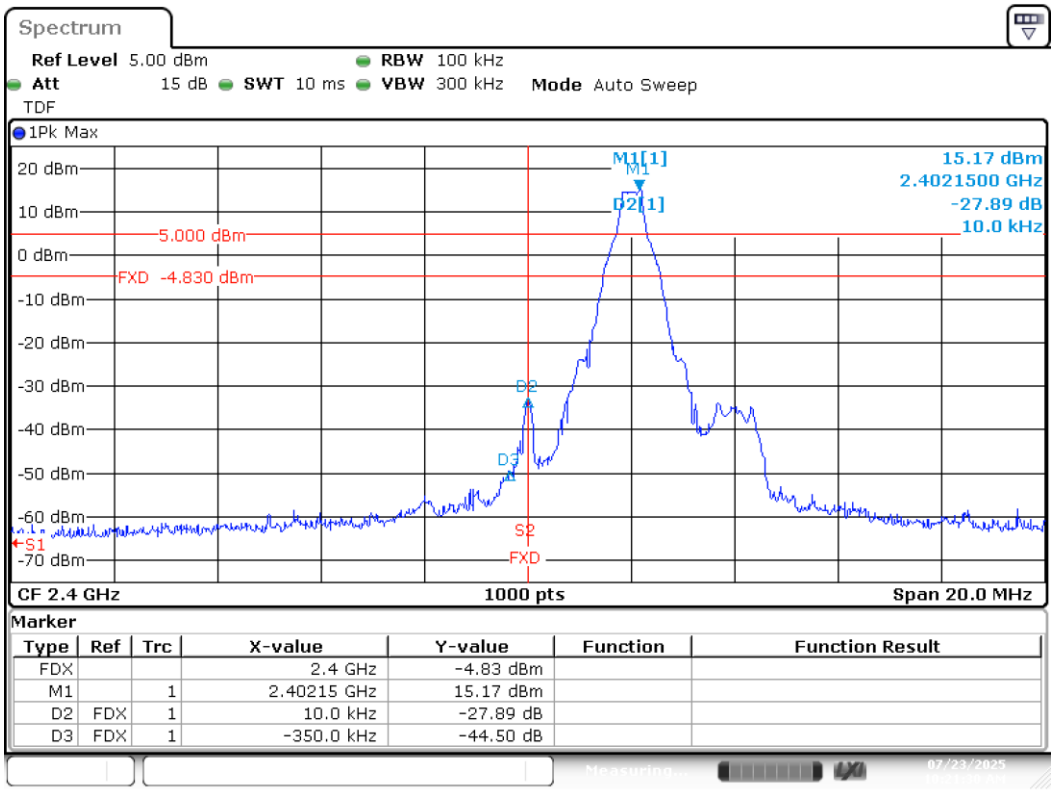
MIMO A - GFSK

BE R Low Freq Section – CH0



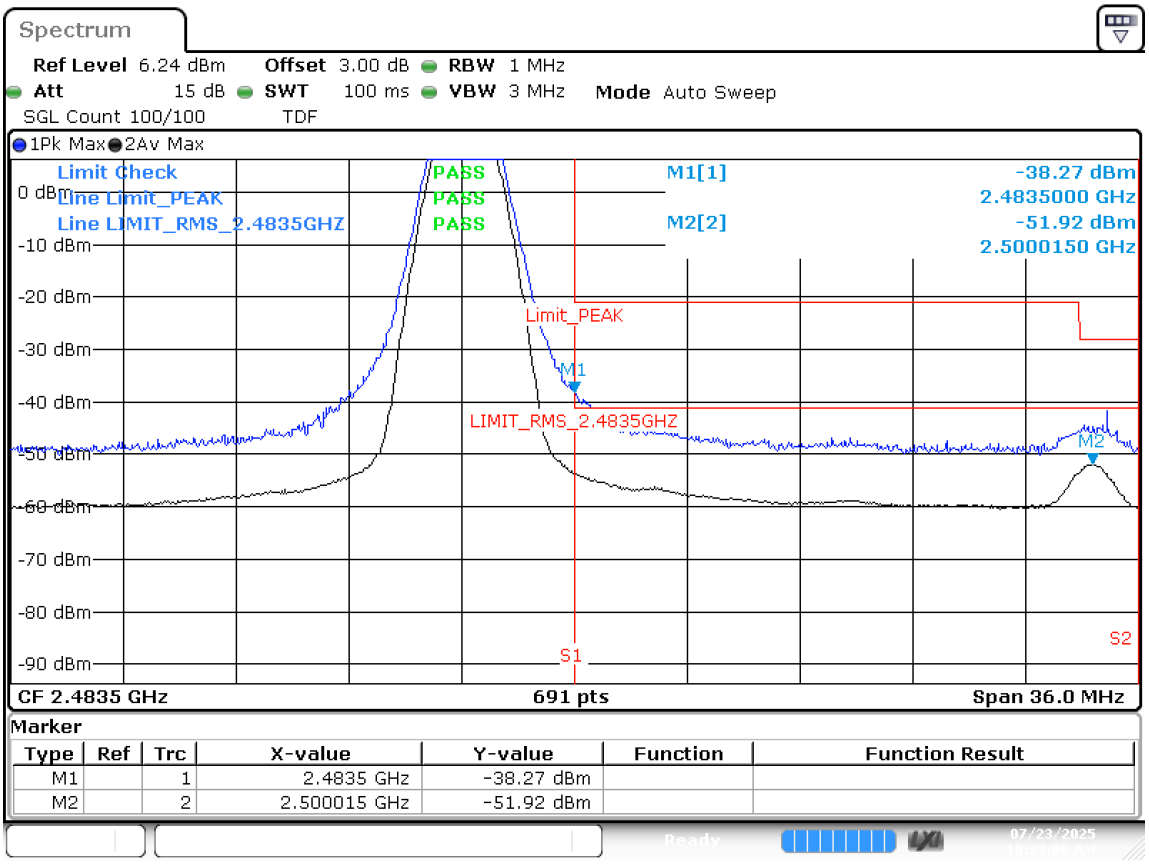
Date: 23.JUL.2025 10:21:20

BE NR Low Freq Section – CH0



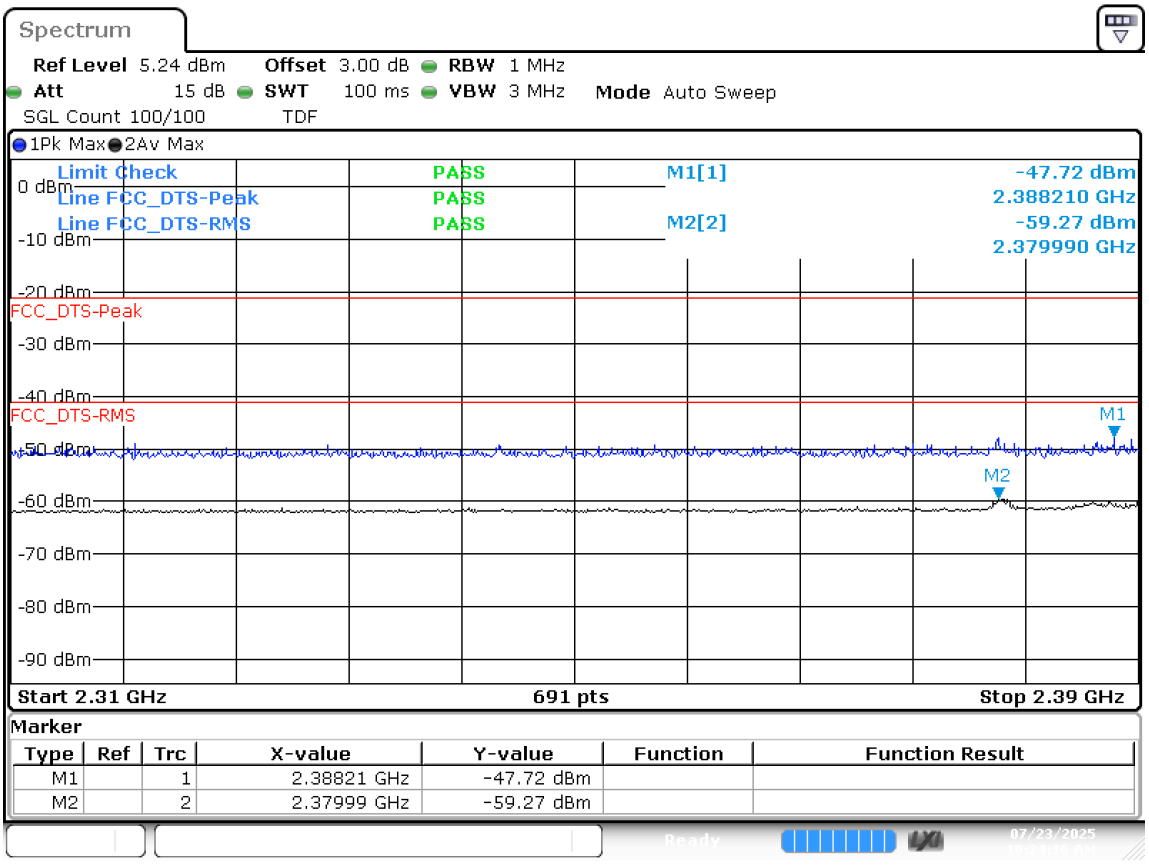
Date: 23.JUL.2025 10:21:31

BE R High Freq Section – CH78



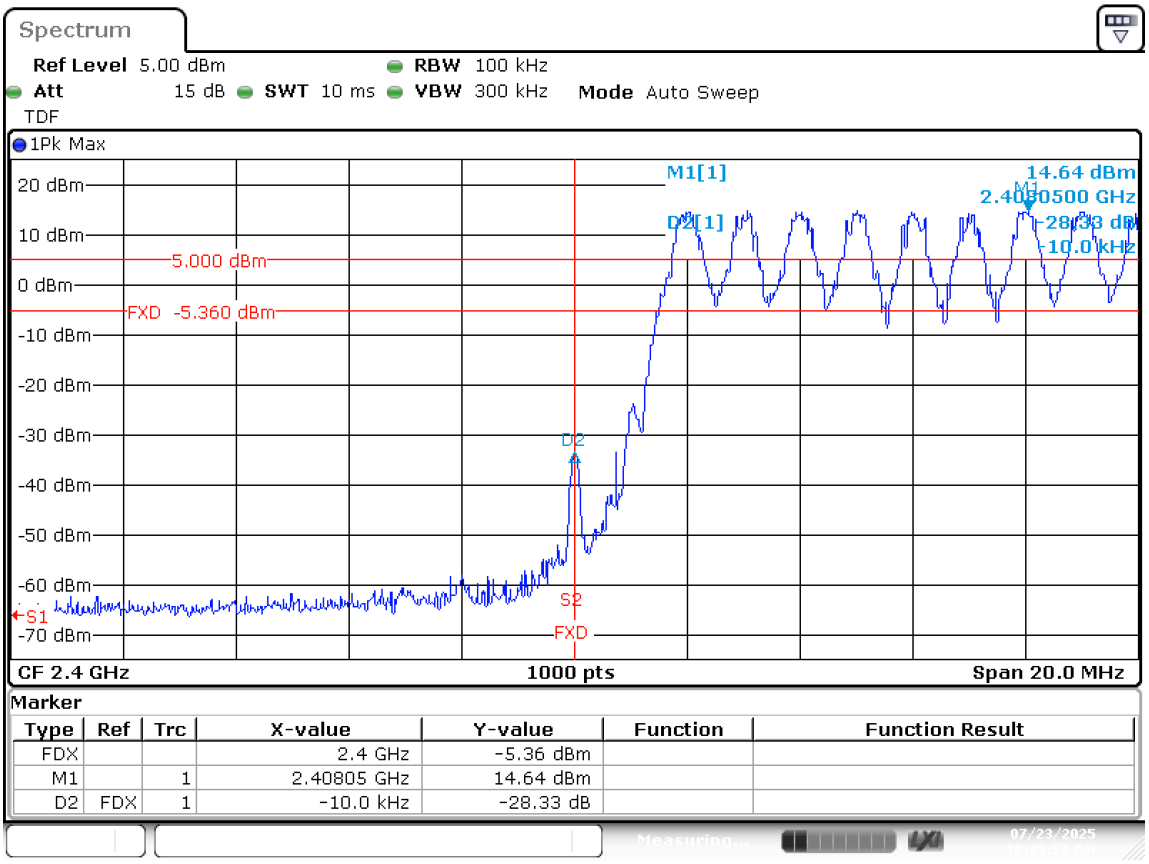
Date: 23.JUL.2025 10:23:06

BE R Low Freq Section – Hopping



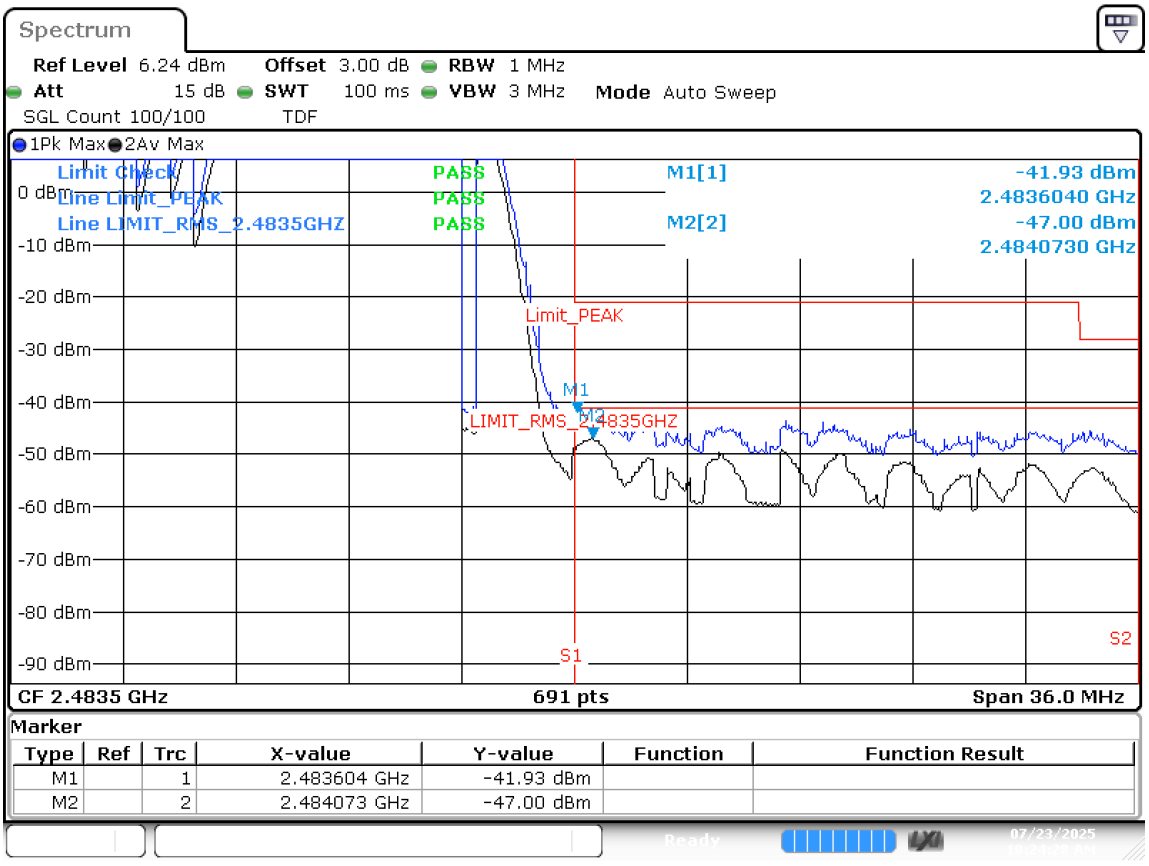
Date: 23.JUL.2025 10:24:16

BE NR Low Freq Section – Hopping



Date: 23.JUL.2025 10:23:53

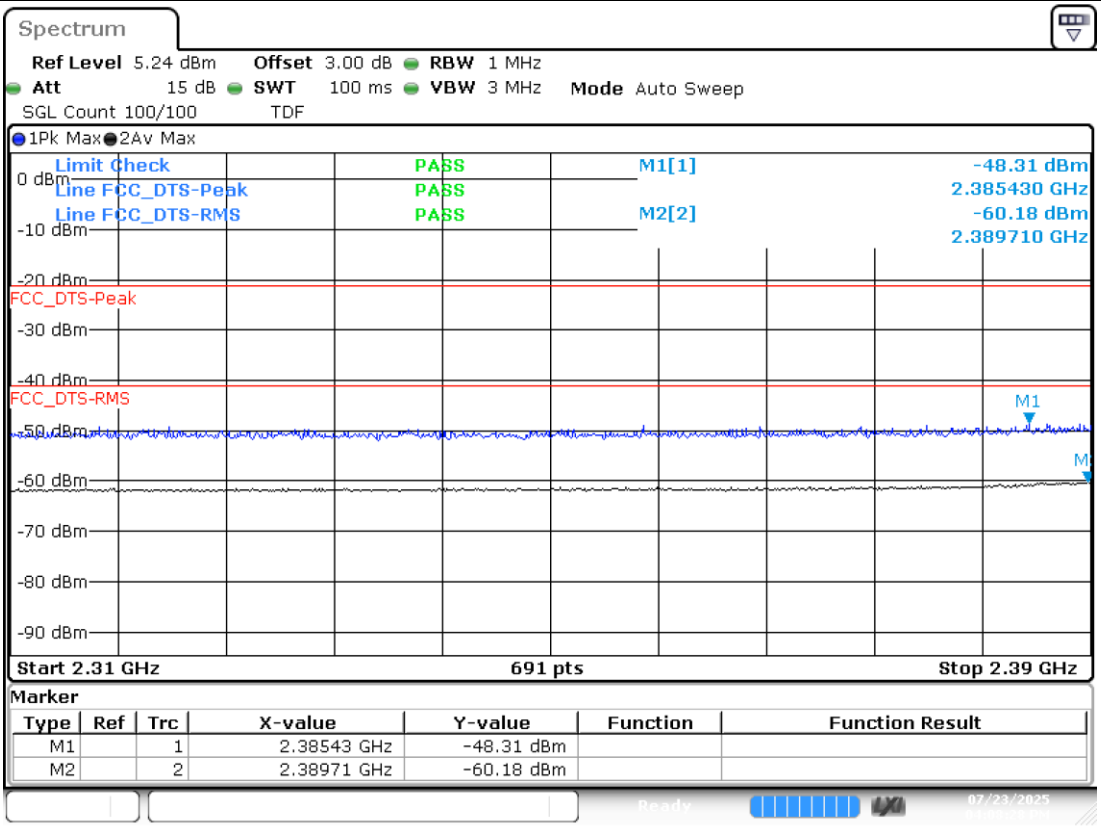
BE R High Freq Section – Hopping



Date: 23.JUL.2025 10:24:28

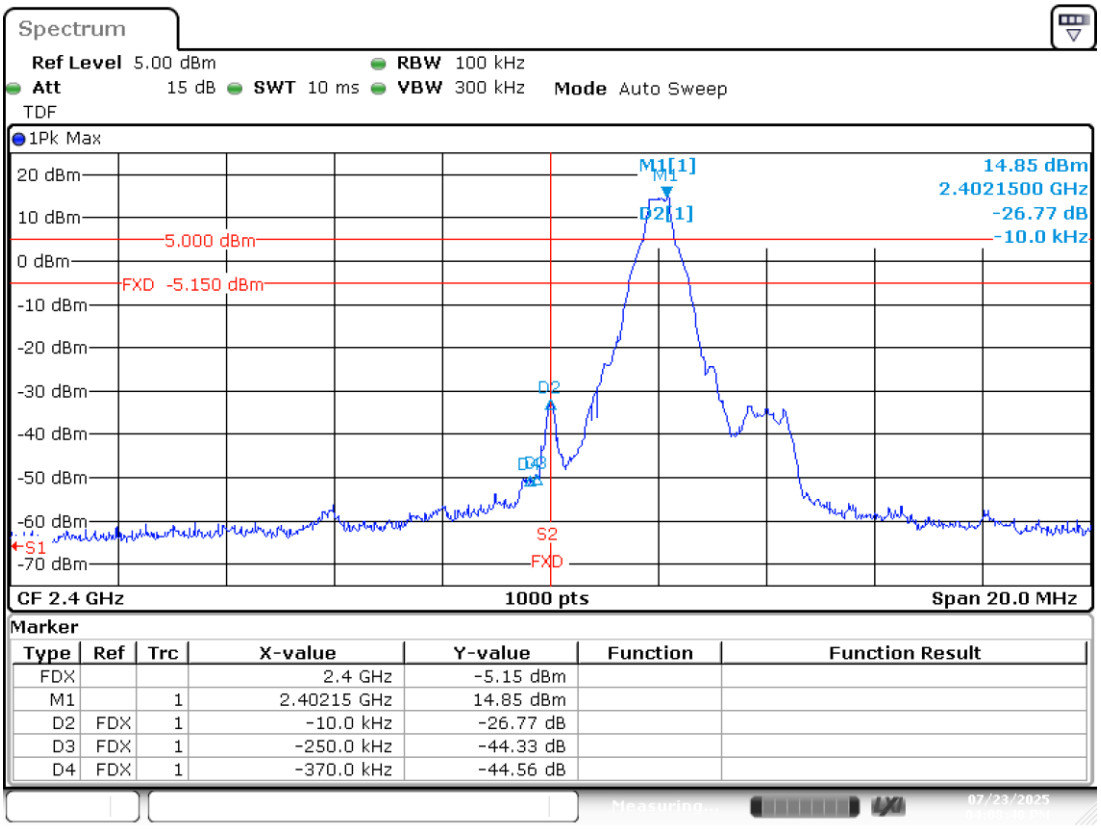
MIMO B - GFSK

BE R Low Freq Section – CH0



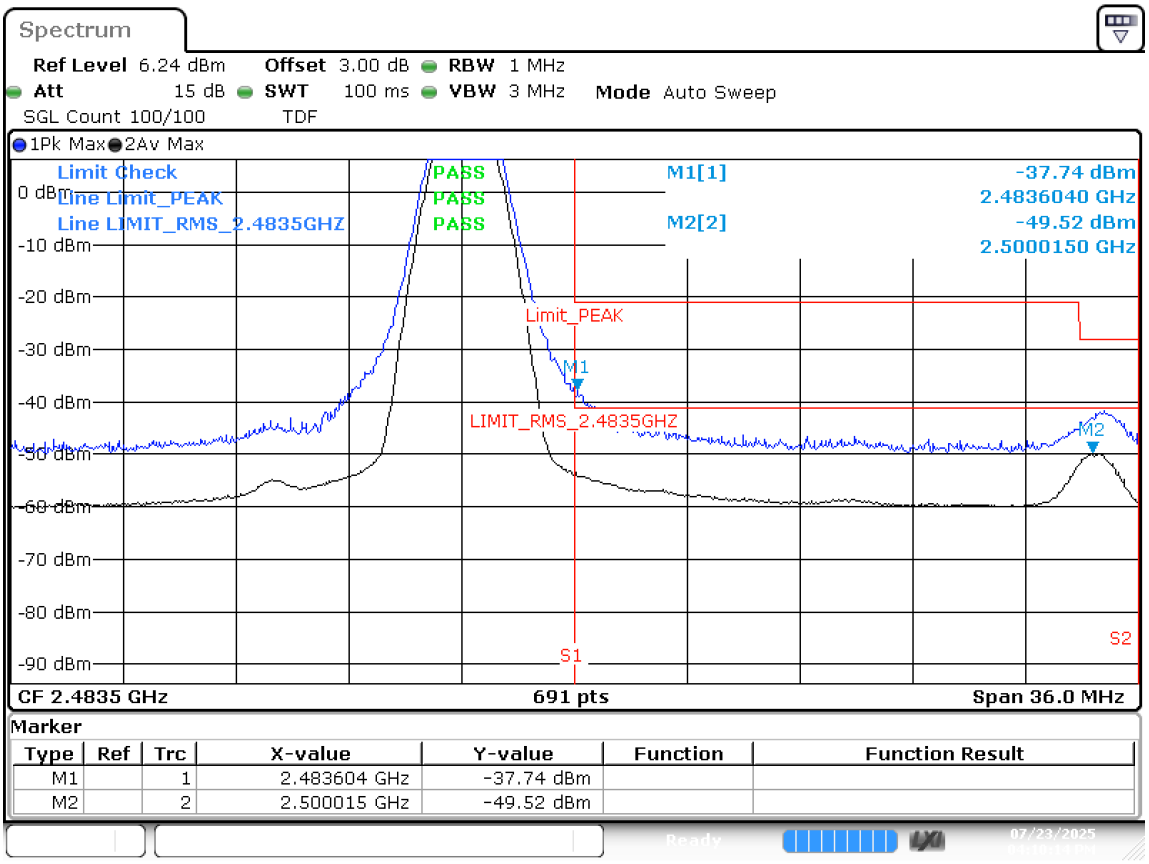
Date: 23.JUL.2025 16:08:29

BE NR Low Freq Section – CH0



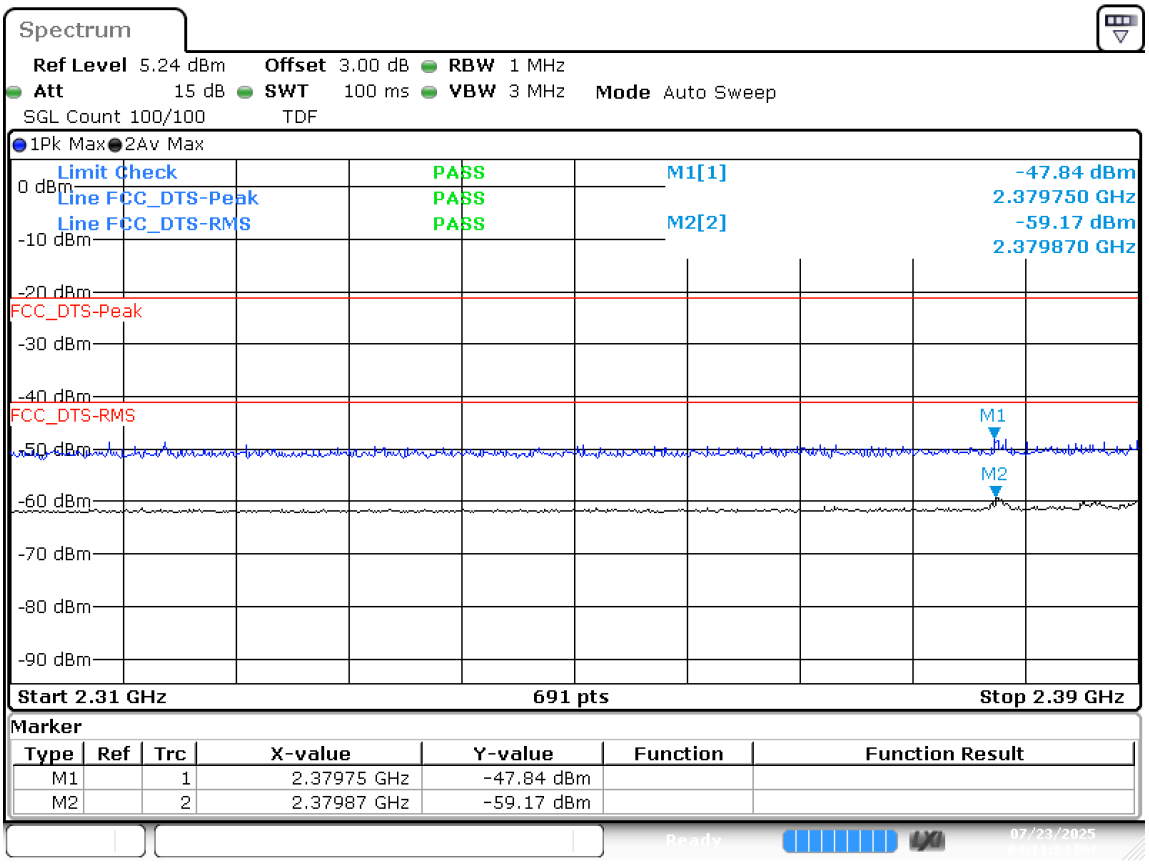
Date: 23.JUL.2025 16:08:40

BE R High Freq Section – CH78



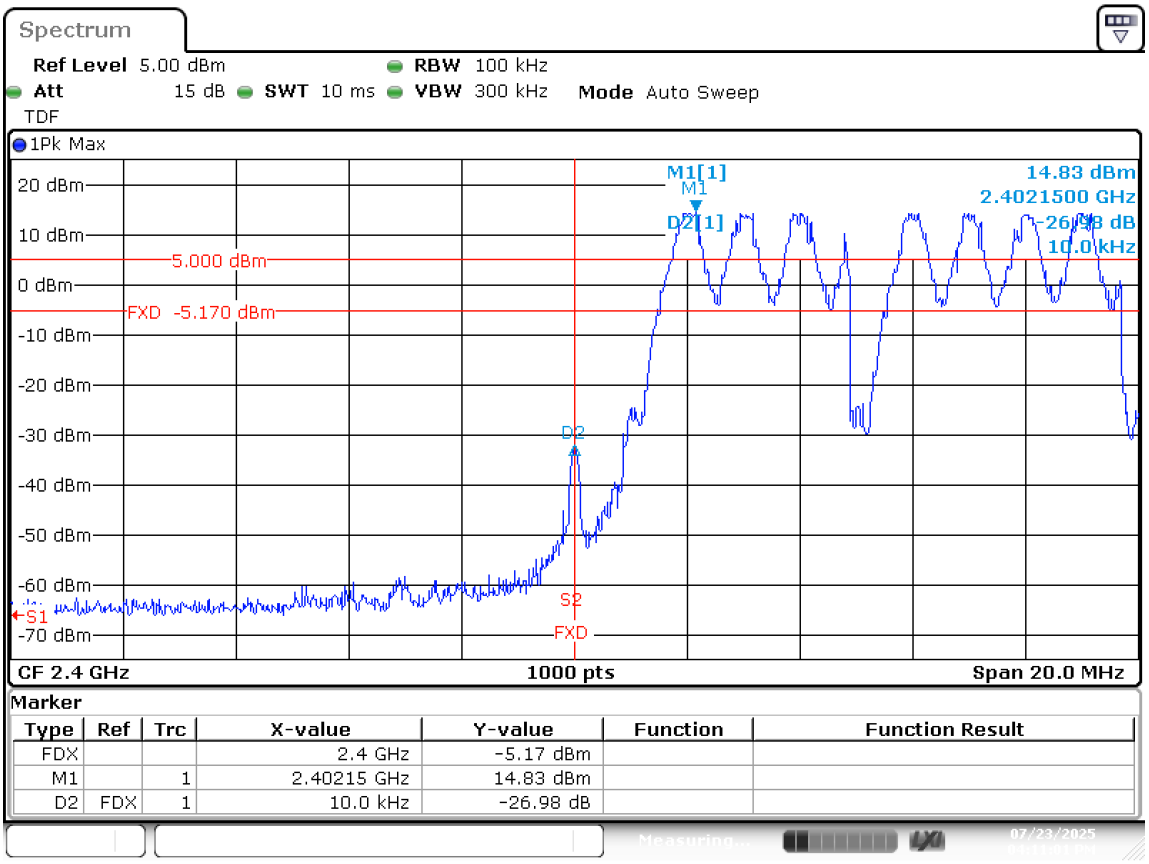
Date: 23.JUL.2025 16:10:15

BE R Low Freq Section – Hopping



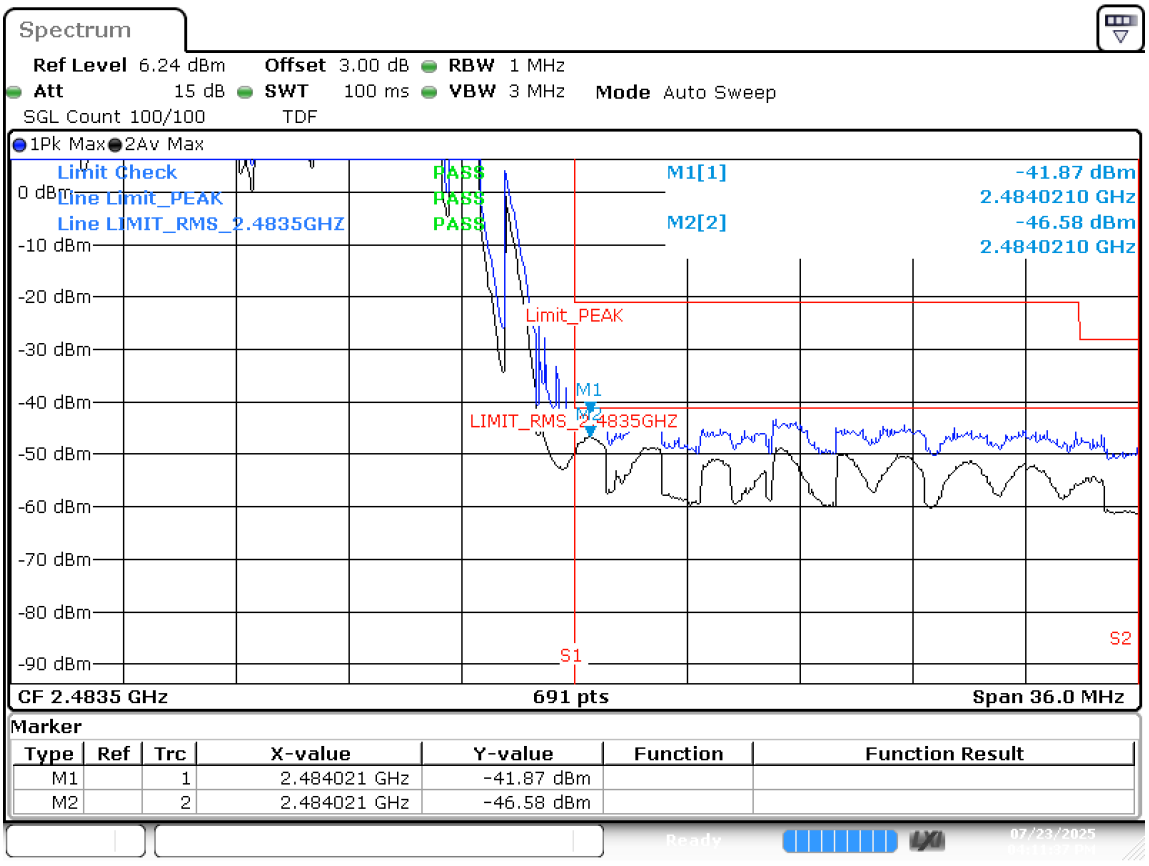
Date: 23.JUL.2025 16:11:25

BE NR Low Freq Section – Hopping



Date: 23.JUL.2025 16:11:01

BE R High Freq Section – Hopping



Date: 23.JUL.2025 16:11:37

B.7 Radiated spurious emission

B.7.1 Standards references

<table>
<tr><th>FCC part</th><th>RSS part</th><th>Limits</th></tr>
<tr><td>15.247 (d)
15.209 (a)</td><td>RSS-247
Clause 5.5

RSS GEN A1
Clause 8.9</td><td>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):
<table>
<tr><th>Freq Range (MHz)</th><th>Field Stregth (µV/m)</th><th>Field Stregth (dBµV/m)</th><th>Meas. Distance (m)</th></tr>
<tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr>
</table>
The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</td></tr>
</table>

B.7.2 Test procedure

The radiated setups shown in section *Test & System Description* were used to measure the radiated spurious emissions.
Depending of the frequency range and bands being tested, different antennas and filters were used.

The final measurement is done by varying the antenna height from 1 m to 4 m, the EUT azimuth over 360º and for both Vertical and Horizontal polarizations.

The radiated spurious emissions were measured on the lowest, middle and highest channels. Only the worst case mode per Antenna chain is reported.

B.7.3 Test Results

30 MHz – 1 GHz, BR – GFSK

Radiated Spurious – CH39 DH5

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBµV/m	---	dBµV/m	dB	---
228.1	37.1	Quasi-Peak	46	8.9	H

1 GHz – 26.5 GHz, BR – GFSK, Chain A

Radiated Spurious – CH39 DH5

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBµV/m	---	dBµV/m	dB	---
6373.7	54.1	Peak	74.0	19.9	H
6376.7	42.0	Average	54.0	12.0	H

1 GHz – 26.5 GHz, BR – GFSK, Chain B

Radiated Spurious – CH78 DH5

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBµV/m	---	dBµV/m	dB	---
6370.0	55.6	Peak	74.0	18.4	H
6370.0	43.7	Average	54.0	10.3	H
25604.0	38.9	Average	54.0	15.1	V
25604.0	50.9	Peak	74.0	23.1	V

1 GHz – 26.5 GHz, BR – GFSK, Chain A+B

Radiated Spurious – CH39 DH5

Frequency	Level	Detector	Limit	Margin	Polar
MHz	dBµV/m	---	dBµV/m	dB	---
6355.0	54.4	Peak	74.0	19.6	H
6355.0	42.9	Average	54.0	11.1	H